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Mr. McCrory is on an inspection trip during which he will visit Auburn, Ala., Stoneville, Miss., and Stuttgart, Ark. He expects to attend a meeting of the Committee on Rural Electrification at Chicago on July 27.

Chas. A. Bennett, in charge of the cotton ginning laboratory at Stoneville, Miss. has been in Washington since June 1 preparing manuscripts for a farmers' bulletin and technical bulletins on cotton ginning. F. L. Gerdes of the Bureau of Agricultural Economics, in charge of the cotton fiber laboratory at Stoneville, is joint author of the publications. Work on these publications has been interrupted by two trips to Stoneville by Mr. Bennett in connection with the construction of a new fiber laboratory and other structures.

A rain of unusually high intensity occurred at the LaCrosse Soil Erosion Experiment Station on July 5. Mr. Hardisty reports intensities for short periods as follows: 5-minute period, 7.68 inches per hour; 10-minute period, 7.00 inches per hour; 15-minute period, 5.00 inches per hour. These are the highest intensities for short periods that have been recorded at any of the erosion experiment stations. The highest rate of run-off, amounting to 3.85 inches per hour, occurred on the untterraced cultivated watershed. The highest rate of run-off for terraces was 2.6 inches per hour. This rate occurred for a terrace 1,500 feet long with a variable grade of 1 to 6 inches per 100 feet. The rate of run-off for a level terrace the same length was only 0.4 inch per hour.

Damage to crops from chinch bugs has made it practically impossible to judge erosion control measures by comparing yields this year on the Bethany station. Mr. Holman reports damage to crops on different fields and terraces ranging from 50 to 100 percent.

A new infestation of Canadian thistle on a small area at the Pullman Soil Erosion Station is reported by P. C. McGrew. Control measures adopted consisted of digging out each plant, placing a handful of salt in the bottom of the hole and refilling. This method was employed last year on a larger area, and so far this year no plants have appeared on that area. Mr. McGrew states that this method is much easier than to attempt to keep the growth down by cultivation. It would of course not be practical on an extensive area or on an area where the growth is dense, but is particularly applicable to areas with a few scattered plants.

Representatives of the agricultural experiment stations of Ohio, Pennsylvania, West Virginia and Kentucky, at the invitation of V. D. Young and J. M. Snyder, attended a meeting at Zanesville, Ohio, to discuss the advisability of establishing an advisory committee consisting of one

agricultural engineer and one soils man from each of the States mentioned to consider what erosion experiments are most needed in their respective States. A round table discussion was held at this meeting, wherein the State representatives were encouraged to give suggestions for experiments in erosion control that would be particularly applicable to problems in their States.

D. L. Yarnell and D. G. Miller have been giving engineering assistance to the Bureau of Biological Survey in preliminary investigations on migratory water fowl refuges. Mr. Yarnell is making a survey of Mouse and Des Lacs rivers, North Dakota, and Mr. Miller is preparing a report of a survey near Thief River Falls, Minn. The work will involve the construction of dikes, dams, and accessory structures.

A report covering experiments with sewage irrigation in New Jersey and neighboring States is in preparation by Geo. A. Mitchell. Guy Ervin of the Washington office spent some time with Mr. Mitchell in May and June assisting in the assembling of the data for the report. The sewage irrigation project was terminated June 30.

Geo. R. Shier has completed the farm land development surveys in Ohio and is beginning similar surveys in Michigan.

At the joint meetings of the Western Society of Soil Science, the Pacific Coast Section of the American Society of Agricultural Engineers, and the Hydrology Section of the American Geophysical Union, held in Berkeley, Calif., June 18-23, papers were presented by the following representatives of the Division of Irrigation: A. T. Mitchelson, R. L. Parshall, O.V.P. Stout, and M. R. Lewis, R.A. Work, and Colin A. Taylor.

L. T. Jessup and J. C. Marr completed a preliminary report on the results of their investigation begun in April, of drainage problems of Kittitas Valley, Washington. Remedy for the situation was found to require correction of several objectionable irrigation conditions and practices as well as the construction of a drainage system. It was recommended that all subirrigation practices be discontinued and that road-ditch or borrow-pit irrigation distribution systems be abandoned. Closer regulation of canal diversions to conform more nearly with irrigation needs was also deemed necessary. It was estimated the construction of main drains and laterals would total about \$10.13 per acre for 38,500 acres of land. In view of the size of the project, the numerous difficulties to be overcome, and the low state of individual resources of land owners, it was suggested that the only hope for early relief lay in community organization and construction of the drainage system as a Federal project.

In connection with the sewage irrigation project recently undertaken under the leadership of W. A. Hutchins, visits were made by Harry G. Nickle to 20 or more sewage disposal plants in various parts of Texas, where data were gathered for the project. Mr. Nickle also consulted with a great many owners and managers of sewer systems.

At the sand and silt removal laboratory near El Centro, in Imperial Valley, Calif. a short but comprehensive series of tests was conducted with three vortex tubes installed in the flume, after which this equipment was removed and the grating type of sand trap apparatus installed. Visual observations as to the efficiency and practicability of this type appeared very encouraging.

The time for observations of the grating type of trap was not sufficient to conclusively demonstrate that this type of device is immune from clogging by fibrous material carried in the water, but after several hours of use it was noted that this grating, which was about 88 feet long, did not show any accumulation of foreign material on the vanes. On June 19 it was necessary to discontinue operation of the laboratory due to the extremely low stage of the Colorado River.

Upon request of the Farm Credit Administration, P. A. Ewing and B. S. Clayton were assigned to a special investigation in the rice-growing area of Arkansas. The study is being made to determine the soundness of Federal Land Bank loans within the area as affected by such factors as quality of soil, available water supply, and drainage conditions.

As a result of the recent Western trip of Secretary Wallace, a request was made by him that the Division of Irrigation make a hurried survey of seven typical outlying Mormon communities in Utah to determine the degree of their present self-containment, that is, the extent to which they produce what they consume. Wells A. Hutchins was assigned to this work and spent most of June and a few days of July in making the survey.

In the forage-drying studies E. D. Gordon has found that in drying alfalfa with the apron conveyor drier reducing the fan speed 20 percent reduced the power requirement for each ton of dried material by 37 percent. The fuel requirements per unit weight of dried forage are about the same. With a fan speed of 540 r.p.m., the velocity of the drying air through the apron averages about 1,000 feet per minute. At 430 r.p.m. the velocity is about 900 to 950 feet per minute.

The rotary drier is now being used to a considerable extent to dry soybeans and cowpeas for the Bureau of Dairy Industry. These materials are chopped into 1/4-inch lengths and conveyed to a rotating cylinder 6 feet in diameter, which also opens to the furnace. An exhaust fan at the opposite end pulls the hot drying gases in from the furnace at a temperature of 1,000°F. The chopped forage is tumbled into this path of hot air and gradually works its way to the opposite end of the drier. The hot gases pick up considerable moisture so that the exhaust temperature is reduced to about 210°F. The chopped hay requires about a minute to pass through.

E. M. Mervine spent the last week of June in Ohio and eastern Indiana introducing the operation of mechanical cross blocking in connection with the growing of sugar beets in that area.

A record breaking drought at Ames, Iowa, during April, May, and June, is reported by C. K. Shedd. The rainfall during these three months was as follows: April, 0.69 inch; May, 0.32 inch; June, 1.24 inches; total 2.25 inches. The normal rainfall for this period is: April, 2.89 inches; May, 4.25 inches; June, 4.24 inches; total 11.38 inches. Small grain and hay crops were almost a total failure but corn was not very seriously damaged. Experiments with cultural methods and equipment for growing corn were carried out as planned but there may be a question as to the value of results secured under such unusual weather and soil conditions.

A basin-forming attachment for a 4-row lister was recently constructed under the corn production machinery project at Ames, Iowa and shipped from there to the Division of Drainage and Soil Erosion Control at Hays, Kansas, to be used in investigations of soil and moisture conservation.

Construction of the Farm Tillage Machinery Laboratory at Auburn, Ala. is progressing rapidly. All footings for both the plot walls and the building have been completed and a number of the plot walls poured. Plans for the power and utility cars to be operated on the plot walls have been completed and the plans for the dynamometers will be finished soon.

E. M. Dieffenbach, after visiting manufacturers of spraying equipment and orchardists in the Middle West and East, and attending the A.S.A.E. meeting at Detroit, conferred with college authorities at Pennsylvania State College relative to potato spraying and tests on spraying equipment.

A late model, single-row cotton harvester of the stripper type is being altered at Arlington Farm for experiments in the row harvesting of soybeans in the South Atlantic States. A small harvester which cuts and threshes the beans is also under construction. W. R. Humphries and Geo. Stafford are assisting W. M. Hurst with this project.

G.A. Cumings recently inspected the fertilizer placement experiments in the Eastern and Northern States. It has been particularly noticeable this season that earlier germination and most rapid plant growth occurred where the fertilizer was placed in a band at each side of the row, as compared to placements above, underneath, or mixed with the soil around the seed. Demonstrations of side placement of fertilizer on beans in New Jersey with a new commercial machine show this method to be much superior to the common farm practices this season. In the potato experiment at Wooster, Ohio, fertilizer placed near cut seed greatly reduced the stand and plant growth, but when placed near whole seed no injury was apparent.

In the fertilizer placement tests as well as in farm practice, effects of time of plowing and depth of cultivation are strikingly shown in the growing crops this season. With a shortage of moisture, fall plowing is far superior to spring plowing, in fact with late spring plowing crops are practically a complete failure in some places. Deep cultivation has had particularly harmful effects in some cases by bringing moisture to the surface where it was lost, and by restricting the root system to the narrow block of soil in the row.

A manuscript for a Farmers' Bulletin on "Farmhouse Plans" referred to in the March News Letter, prepared under the supervision of Wallace Ashby of the Division of Structures in cooperation with the Bureau of Home Economics and the agricultural engineering departments of 17 State agricultural colleges has been submitted for publication. This manuscript contains plans for 40 low-cost farm houses. The material was compiled during the winter and spring months with the aid of C.W.A. funds.

T.A. H. Miller is at St. Paul collecting information in connection with research work on the movement of communities from submarginal land to places where they will have better opportunities.